

### REMARKS

Claims 1-24 are pending. Claims 1, 2, 14, 15 are currently amended, claims 3, 4, and 16 are cancelled, and claims 18-24 are withdrawn. No new matter has been introduced.

This responds to the Office Action mailed January 24, 2005, response being due by April 24, 2005, rejecting claim 2 under 35 U.S.C. § 112, second paragraph; rejecting claims 1, 12, 13 and 18-20 under 35 U.S.C. § 102(b) as being anticipated by Ichikawa (JP 11163091); rejecting claims 2-11 and 15-17 under 35 U.S.C. § 103(a) as being obvious over Ichikawa in view of Petvai et al. (US 5,569,328); and rejecting claim 14 under 35 U.S.C. § 103(a) as being obvious over Ichikawa in view of Wirz (US 4,869,489). Applicants traverse these rejections and respectfully requests reconsideration of the rejected claims in light of the above amendments and following remarks.

#### I. Election/Restrictions

A restriction was issued under 35 U.S.C. § 121 between claims 1-17 and 18-24. Affirming the provisional election made during a telephone conversation on January 21, 2005, Applicants elect the first group of claims, claims 1-17. Consequently, claims 18-24 are withdrawn.

#### II. 35 U.S.C. § 112 Rejections

The Examiner rejected claim 2 under 35 U.S.C. § 112, second paragraph, as being indefinite due to a lack of antecedent basis for "the chuck assembly." Amended claim 2 provides the proper antecedent basis for "the chuck assembly."

III. 35 U.S.C. § 102 Rejections

The Examiner rejected claims 1, 12, 13 and 18-20 under 35 U.S.C. § 102(b) as being anticipated by Ichikawa. Specifically, the Examiner asserts that the Japanese reference discloses a first robotic arm, a second robotic arm comprising a transfer arm having first and second ends, and a controller.

Amended claim 1 now more clearly claims an end effector attached to the second end of the second robotic arm by reciting the end effector is configured to sequentially apply positive and negative pressures to capture and release an interleaf. Applicants contend that the Japanese reference does not disclose an end effector having the ability to sequentially apply positive and negative pressures to capture and release an interleaf.

IV. 35 U.S.C. § 103 Rejections

The Examiner rejected claims 2-11 and 15-17 under 35 U.S.C. § 103(a) as being obvious over Ichikawa in view of Petvai et al. Specifically, the Examiner asserts that it would have been obvious, at the time of the invention, to employ the use of a counterweight, as taught by Petvai, in the device of Ichikawa by attaching the counterweight to the first end of the transfer arm for the purpose of balancing the transfer arm.

Counterweights, as disclosed in Petvai, are common in robotics and automation. However, Ichikawa fails to teach or suggest a system including a first robotic arm having at least two degrees of freedom for capturing and releasing a semiconductor wafer; a second robotic arm having at least two degrees of freedom for capturing and releasing an interleaf; an end effector attached to the second end of the second robotic arm and configured to apply a sequence of positive and negative pressures to capture and release an interleaf; and a controller for actuation of the first and second robotic arms. Also, amended claims 1 and 15 now more clearly claim an end effector configured to apply a sequence of positive and negative pressures to capture and release an interleaf such that the inventions are not anticipated by Ichikawa, nor obvious over Ichikawa in view of

Petvai. As claims 2-11 and 16-17 depend from allowable base claims 1 and 15 respectively, Applicants respectfully submit that the 35 U.S.C. § 103(a) rejection of claims 2-11 and 15-17 should be withdrawn and the claims allowed.

The Examiner rejected claim 14 under 35 U.S.C. § 103(a) as being obvious over Ichikawa in view of Wirz. Specifically, the Examiner states that it would have been obvious, at the time of the invention, to employ the use of a pneumatic separator, as taught by Wirz, in the device of Ichikawa for the purposes of loosening the uppermost sheet in a stack of sheets to facilitate the lifting of the sheet by an end effector.

Wirz discloses air nozzles positioned along the side of and aligned towards a stack of sheets at the height of the suction nozzles on an end effector. The air nozzles blow air between the uppermost sheets of the stack, thereby loosening the uppermost sheets to facilitate lifting of the uppermost sheet by the suction nozzles.

Despite teaching the injection of air between sheets to loosen the sheets on the stack, Wirz only discloses the application of suction forces to lift the uppermost sheet. In contrast, Applicants claim the application of a sequence of positive and negative pressures to capture and release an interleaf and a pneumatic separator co-acting with the end effector to capture the interleaf. As described in the specification, the end effector applies a positive pressure to a top interleaf thereby imparting a net upward force to separate the top interleaf from the interleaf stack. See specification, p. 8, lines 12-29. Wirz does not address, nor solve, the problem of lifting and capturing an uppermost sheet from a stack of sheets through a Bernoulli effect. Furthermore, neither Ichikawa nor Wirz, each considered alone or in combination, do not disclose an end effector configured to apply a sequence of positive and negative pressures to capture and release an interleaf. Applicants respectfully submit that the 35 U.S.C. § 103(a) rejection of claim 14 should be withdrawn and the claims allowed.

### CONCLUSION

It is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment. The Examiner is invited to telephone the undersigned, Applicant's attorney of record, to facilitate advancement of this patent application.

Applicant asks that all claims be allowed.

Upon reviewing the file, applicants noted that they have not received an initialed copy of the enclosed PTO Form 1449 that accompanied an information disclosure statement filed October 22, 2003. Applicants' records show that this information disclosure statement complied with 37 CFR 1.97. Thus, we respectfully request that the examiner initial and return this form as soon as possible.

Enclosed is a \$225 check for the Petition for Extension of Time fee.

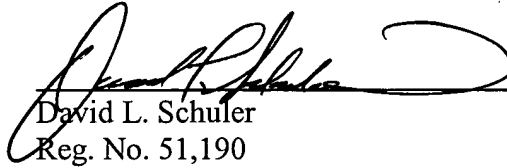
Applicant : Preston Whitcomb et al.  
Serial No. : 10/645,963  
Filed : August 22, 2003  
Page : 11 of 11

Attorney's Docket No.: 05689-016001

Please apply any other charges or credits to deposit account 06-1050, referencing the attorney docket number above.

Respectfully submitted,

Date: 6/24/05

  
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| Substitute Form PTO-1449<br>(Modified)   | U.S. Department of Commerce<br>Patent and Trademark Office | Attorney's Docket No.<br>05689-016001 | Application No.<br>10/645,963 |
| <b>Information Disclosure Statement<br/>by Applicant</b><br>(Use several sheets if necessary)<br>(37 CFR §1.98(b)) |  | Applicant<br>Preston Whitcomb et al.  |                               |
|  |  | Filing Date<br>August 22, 2003        | Group Art Unit                |

### U.S. Patent Documents

| Examiner Initial | Desig. ID | Document Number | Publication Date | Patentee      | Class | Subclass | Filing Date If Appropriate |
|------------------|-----------|-----------------|------------------|---------------|-------|----------|----------------------------|
|                  | AA        | 5,852,413       | 12/22/1998       | Bacchi et al. |       |          | 9/11/1997                  |
|                  | AB        | 5,907,229       | 5/25/1999        | Snell         |       |          | 3/26/1996                  |
|                  | AC        | 6,126,381       | 10/3/2000        | Bacchi et al. |       |          | 4/1/1997                   |

### Foreign Patent Documents or Published Foreign Patent Applications

| Examiner Initial | Desig. ID | Document Number | Publication Date | Country or Patent Office | Class | Subclass | Translation |    |
|------------------|-----------|-----------------|------------------|--------------------------|-------|----------|-------------|----|
|                  |           |                 |                  |                          |       |          | Yes         | No |
|                  | AD        |                 |                  |                          |       |          |             |    |
|                  | AE        |                 |                  |                          |       |          |             |    |
|                  | AF        |                 |                  |                          |       |          |             |    |
|                  | AG        |                 |                  |                          |       |          |             |    |
|                  | AH        |                 |                  |                          |       |          |             |    |

### Other Documents (include Author, Title, Date, and Place of Publication)

| Examiner Initial | Desig. ID | Document |
|------------------|-----------|----------|
|                  | AI        |          |
|                  | AJ        |          |
|                  | AK        |          |
|                  | AL        |          |

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| Examiner Signature   | Date Considered |
| EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. |                 |